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10/731,093	12/10/2003	Yong Cheol Park	0465-1109P	4509
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EXAMINER				
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2627				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/731,093

Applicant(s)

PARK ET AL.

Examiner

PARUL GUPTA

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/29/08.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 18, 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

1. Claims 1-12 and 18-19 are pending for examination as interpreted by the examiner. The amendment and arguments filed on 1/29/08 were considered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6-9, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takano et al., US Patent 5,448,728 in view of Ito et al., US Patent 6,292,445.

Regarding claim 1, Takano et al. teaches a method of managing overwrite on a write-once optical disc (column 1, lines 40-45), comprising: writing data, which is requested to be written in a specified area of the disc where recording is completed (column 1, lines 60-61), from a rear of a user data area of the disc (column 6, lines 2-6); and recording first information on a last logical sector number of the user data area, which is changed in accordance with the replacement recording operation (column 6, lines 8-10), in a management area of the disc (column 6, lines 58-63); and recording second information indicating positions of the specified area and the replacement-recorded area portion, in the management area of the disc, wherein the first information and the second information are recorded at a same update time after the writing of the replacement-recording data is performed (column 6, lines 17-27). The information

stored in the management area indicates the positions and is the second information. The first information is the beginning ID of the information. Takano et al. does not but Ito et al. teaches specifically that the data is replaced and the management area stores information regarding the replaced and replacement areas (column 4, lines 59-67). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Takano et al. with replacement data as taught by Ito et al. The motivation would be to conserve space by overwriting on unnecessary data instead of using more disc space to write extra information to replace defective information.

Regarding claim 2, Takano et al. teaches the method of claim 1, wherein the last logical sector number of the user data area is obtained by updating information on a previous last logical sector number of the user data area (column 6, lines 17-27).

Regarding claim 3, Takano et al. teaches the method of claim 1, wherein the last logical sector number of the user data area is recorded as new management information while information on a previous last logical sector number of the user data area is maintained (column 7, lines 5-7).

Regarding claim 6, Takano et al. teaches in figure 10B a method of managing overwrite on an optical disc write once (column 1, lines 40-45), comprising: writing recording data, which is requested to be overwritten in a specified area of the disc where recording is completed (column 1, lines 60-61), in an area preceding an outer spare area of the disc ("B AREA"); extending the outer spare area as large as a size of a replacement-recorded area (column 6, lines 8-10); and recording first information on a last logical sector number of the user data area, which is changed in accordance with

the extension of the outer spare area, in a management area of the disc (column 6, lines 58-63); and recording second information indicating positions of the specified area and the replacement-recorded area, in the management area of the disc, wherein the first information and the second information area recorded at a same update time after the writing of the replacement-recording data is performed (column 6, lines 17-27). The information stored in the management area indicates the positions and is the second information. The first information is the beginning ID of the information. Takano et al. does not but Ito et al. teaches specifically that the data is replaced and the management area stores information regarding the replaced and replacement areas (column 4, lines 59-67). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Takano et al. with replacement data as taught by Ito et al. The motivation would be to conserve space by overwriting on unnecessary data instead of using more disc space to write extra information to replace defective information.

Regarding claim 7, Takano et al. teaches in figure 10B a method of managing overwrite on a write-once optical disc (column 1, lines 40-45), comprising: writing recording data, which is requested to be overwritten in a specified area of the disc where recording is completed (column 1, lines 60-61), in an outer spare area of the disc ("B AREA"); determining whether to extend the outer spare area in consideration of a size of a replacement-recorded area (column 6, lines 8-10); and recording first information on a last logical sector number of the user data area, which is changed in accordance with the determination of the extension of the outer spare area, in a

management area of the disc (column 6, lines 58-63); and recording second information indicating positions of the specified area and a replacement-recorded area of the outer spare area, in the management area of the disc, wherein the first information and the second information are recorded at a same update time after the writing of the replacement-recording data is performed (column 6, lines 17-27). The information stored in the management area indicates the positions and is the second information. The first information is the beginning ID of the information. Takano et al. does not but Ito et al. teaches specifically that the data is replaced and the management area stores information regarding the replaced and replacement areas (column 4, lines 59-67). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Takano et al. with replacement data as taught by Ito et al. The motivation would be to conserve space by overwriting on unnecessary data instead of using more disc space to write extra information to replace defective information.

Regarding claim 8, Takano et al. teaches the method of claim 7, wherein whether to extend the outer spare area is determined before the replacement recording operation. Column 6, lines 8-10 explains that the determination of whether or not to extend the area occurs while judgment is being made of where to write the data, during the updating step, before actually writing the data.

Regarding claim 9, Takano et al. teaches the method of claim 7, wherein whether to extend the outer spare area is determined during initialization of the disc. Column 6, lines 8-10 explains that the determination of whether or not to extend the area occurs while judgment is being made of where to write the data, during the updating step,

before actually writing the data. This is during the initialization or formatting period before writing, even if not the initial formatting of the disc.

Regarding claim 18, Takano et al. teaches an apparatus for recording/reproducing an optical disc write once (figure 1), comprising: a recording device configured to judge whether a specified area is an already recorded area or a non-recorded area (column 6, lines 21-23); if it is judged that the specified area is the already recorded area, to write data, requested to be overwritten in the specified area, in a replacement area of a data area; to record first information on a last logical sector number of a user data area; and to record second information indicating positions of the specified area and the replacement area, wherein the first information and the second information are recorded at a same update time after the writing operation is performed (column 6, lines 17-27 where the information stored in the management area indicates the positions and is the second information. The first information is the beginning ID of the information), and the last logical sector number of the data area is changed by the writing operation (column 6, lines 17-27). Takano et al. does not but Ito et al. teaches specifically that the data is replaced and the management area stores information regarding the replaced and replacement areas (column 4, lines 59-67). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Takano et al. with replacement data as taught by Ito et al. The motivation would be to conserve space by overwriting on unnecessary data instead of using more disc space to write extra information to replace defective information.

Regarding claim 19, Takano et al. teaches a computer-readable recording medium, comprising: a data area ("storage area" as given in column 7, line 32) including a user data area being usable as a replacement area, wherein the replacement area is assigned when writing data requested to be overwritten in a specified area of the user data area; and at least one management area (where "management data" of column 7, lines 52-59 is written) for storing first information including a last logical sector number of the user data area (location of data as given in column 2, lines 9-10) and second information indicating positions of the specified area and the replacement area, wherein the first information and the second information are recorded at a same update time after the writing operation is performed (column 6, lines 17-27 where the information stored in the management area indicates the positions and is the second information. The first information is the beginning ID of the information), and last logical sector number of the user data area is changed by the assigned replacement area (column 6, lines 2-27). Takano et al. does not but Ito et al. teaches specifically that the data is replaced and the management area stores information regarding the replaced and replacement areas (column 4, lines 59-67). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Takano et al. with replacement data as taught by Ito et al. The motivation would be to conserve space by overwriting on unnecessary data instead of using more disc space to write extra information to replace defective information.

3. Claims 4-5 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takano et al. in view of Ito et al. in view of Miyamoto et al., US Patent 5,867,455.

Takano et al. in view of Ito et al. teaches the limitations of independent claim 1 as set forth above.

Regarding claim 4, Takano et al. further teaches the method of claim 1, wherein the optical disc write once is a type of optical disc write once, to which the method is applied in the same manner. However, Takano et al. in view of Ito et al. does not but Miyamoto et al. teaches that the disc is a dual-layer type disc in column 2, lines 25-26. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of a dual layer disc having user data areas as taught by Miyamoto et al. into the system of Takano et al. in view of Ito et al. The motivation would be to be effective in a read only memory (column 2, lines 38-42 of Miyamoto et al.) while storing more information than standard single layer discs.

Regarding claim 5, Miyamoto et al. further teaches a method, wherein the dual layers have user data areas consecutively given like one recording layer. Column 2, lines 25-42 explain the interaction between the first and third layers that help them operate as one layer. As the second layer is optional, the disc given only has dual layers. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of a dual layer disc having user data areas as taught by Miyamoto et al. into the system of Takano et al. in view of Ito et al. The motivation would be to be effective in a read only memory (column 2, lines 38-42 of Miyamoto et al.) while storing more information than standard single layer discs.

Regarding claim 10, Takano et al. teaches a method of managing overwrite on an optical disc write once (column 1, lines 40-45), comprising: selectively writing

replacement-recording data, which is requested to be overwritten in a specified area of the disc where recording is completed (column 1, lines 60-61), in a user data area of the respective recording layer of the disc; and recording first information on a last logical sector number of the user data area of the respective recording layer, which is changed in accordance with the replacement recording operation, in a management area of the disc (column 6, lines 58-63); and recording second information indicating positions of the specified area and a replacement-recorded area of the user data area, in the management area of the disc, wherein the first information and the second information are recorded at a same update time after the writing of the replacement-recording data is performed (column 6, lines 17-27). The information stored in the management area indicates the positions and is the second information. The first information is the beginning ID of the information. Takano et al. does not but Ito et al. teaches specifically that the data is replaced and the management area stores information regarding the replaced and replacement areas (column 4, lines 59-67). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of Takano et al. with replacement data as taught by Ito et al. The motivation would be to conserve space by overwriting on unnecessary data instead of using more disc space to write extra information to replace defective information. However, Takano does not but Miyamoto does teach a disc having a plurality of recording layers in column 2, lines 25-26. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of a dual layer disc having user data areas as taught by Miyamoto et al. into the system of Takano et al. in view of Ito et al. The

motivation would be to be effective in a read only memory (column 2, lines 38-42 of Miyamoto et al.) while storing more information than standard single layer discs.

Regarding claim 11, Takano et al. further teaches a method, wherein the last logical sector number of the user data area of the respective recording layer is obtained by updating information on a previous last logical sector number of the user data area of the respective recording layer (column 6, lines 17-27).

Regarding claim 12, Takano et al. further teaches a method, wherein the last logical sector number of the user data area of the respective recording layer is recorded as new management information while information on a previous last logical sector number of the user data area of the respective recording layer is maintained as it is (column 6, lines 58-63).

Response to Arguments

4. Applicant's arguments with respect to all claims have been considered and are persuasive. Applicant contends that neither Takano et al. nor Miyamoto disclose replacement-recording data. The examiner agrees and has changed the rejection appropriately.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Parul Gupta whose telephone number is (571)272-5260. The examiner can normally be reached on Monday through Thursday, from 9:30 AM to 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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3/11/08